[Claims]

[Claim 1] An anti-human influenza virus antibody having the following characteristics (a) and (b); specified hereinbelow:

(a) recognizing the stem region of haemagglutinin molecule of the H1N1 and H2N2 subtypes of human influenza A virus but not recognizing the stem region of a haemagglutinin molecule of the H3N2 subtype thereof; and

(b) having a neutralization activity for the H1N1 and H2N2 subtypes of human influenza A virus but no neutralization activity for the H3N2 subtype thereof.

[Claim 2] An anti-human influenza virus antibody as claimed in Claim 1 having the following characteristics (a) and (b):

(a) recognizing a TGLRN polypeptide sequence represented by the SEQ ID No. 1 in the sequence listing and a GITNKVNSVIEK polypeptide sequence represented by the SEQ ID No. 2 in the sequence listing of the stem regions in haemagglutinin molecules of the H1N1 and H2N2 subtypes of human influenza A virus; and

(b) not recognizing a TGMRN polypeptide sequence represented by the SEQ ID No. 3 in the sequence listing and a QINGKLNR (L/V) IEK polypeptide sequence represented by the SEQ ID No. 4 in the sequence listing of the stem region in a haemagglutinin molecule of the H3N2 subtype of human influenza A virus.

[Claim 3] An immunogenic artificial polypeptide having an antigenicity which is substantially same as that of the stem region of haemagglutinin molecule of human influenza A virus.

[Claim 4] An immunogenic artificial polypeptide as claimed in claim 3, which has an antigenicity which is substantially same as that of the stem region of haemagglutinin molecule of the H1N1 and H2N2 subtypes of human influenza A virus.

[Claim 5] An immunogenic artificial polypeptide as claimed

in Claim 4, which contains at least a TGLRN polypeptide sequence represented by the SEQ ID No. 1 in the sequence listing and a GITNKVNSVIEK polypeptide sequence represented by the SEQ ID No. 2 in the sequence listing and has an antigenicity wherein the configuration of these sequences is substantially same as that in the stem region of haemagglutinin molecule of the H1N1 and H2N2 subtypes of human influenza A virus.

[Claim 6] An immunogenic artificial polypeptide as claimed in claim 3, which has an antigenicity which is substantially same as that of the stem region of haemagglutinin molecule of H3N2 subtype of human influenza A virus.

[Claim 7] An immunogenic artificial polypeptide as claimed in Claim 6, which contains at least a TGMRN polypeptide sequence represented by the SEQ ID No. 3 in the sequence listing and a QINGKLNR(L/V)IEK polypeptide sequence represented by the SEQ ID No. 4 in the sequence listing and has an antigenicity wherein the configuration of these sequences is substantially same as that in the stem region of haemagglutinin molecule of the H3N2 subtype of human influenza A virus.

[Claim 8] An immunogenic artificial polypeptide having an antigenicity which is substantially same as that of the stem region of haemagglutinin molecule of human influenza A virus and lacking a globular head region of haemagglutinin molecule of human influenza A virus.

[Claim 9] An immunogenic artificial polypeptide as claimed in claim 8, which has an antigenicity which is substantially same as that of the stem region of haemagglutinin molecule of the H1N1 and H2N2 subtypes of human influenza A virus and lacks a globular head region of haemagglutinin molecule of human influenza A virus.

[Claim 10] An immunogenic artificial polypeptide as claimed

in Claim 9, which contains at least a TGLRN polypeptide sequence represented by the SEQ ID No. 1 in the sequence listing and a GITNKVNSVIEK polypeptide sequence represented by the SEQ ID No. 2 in the sequence listing and has an antigenicity wherein the configuration of these sequences is substantially same as that in the stem region of haemagglutinin molecule of the H1N1 and H2N2 subtypes of human influenza A virus, and lacks a globular head region of haemagglutinin molecule of human influenza A virus.

[Claim 11] An immunogenic artificial polypeptide as claimed in claim 8, which has an antigenicity which is substantially same as that of the stem region of haemagglutinin molecule of H3N2 subtype of human influenza A virus and lacks a globular head region of haemagglutinin molecule of human influenza A virus.

[Claim 12] An immunogenic artificial polypeptide as claimed in Claim 11, which contains at least a TGMRN polypeptide sequence represented by the SEQ ID No. 3 in the sequence listing and a QINGKLNR(L/V)IEK polypeptide sequence represented by the SEQ ID No. 4 in the sequence listing and has an antigenicity wherein the configuration of these sequences is substantially same as that in the stem region of haemagglutinin molecules of the H3N2 subtype of human influenza A virus, and lacks a globular head region of haemagglutinin molecule of human influenza A virus.

[Claim 13] An immunogenic artificial polypeptide as claimed in claim 8 characterized by being obtained by separating from haemagglutinin molecules of human influenza A virus which have been treated with a protease.

[Claim 14] An immunogenic artificial polypeptide as claimed in claim 8 characterized by being obtained by separating from

haemagglutinin molecules of human influenza A virus which have been treated with a proteinase.

[Claim 15] An immunogenic artificial polypeptide as claimed in claim 8 characterized by being obtained by separating from haemagglutinin molecules of human influenza A virus which have been treated with a proteinase K.

[Claim 16] An isolated gene which codes for the polypeptide of claim 3.

[Claim 17] An isolated gene as claimed in claim 16, wherein said gene has a DNA sequene represented by the SEQ ID No. 46.

[claim 18] An isolated gene which codes for the polypeptide of claim 8.

[Claim 19] An isolated gene as claimed in claim 18, wherein said gene is selected from a gene having a DNA sequene represented by the SEQ ID No. 49 and a gene having a DNA sequence represented by the SEQ ID No. 57.